

gas, but the producer gas, which also contains the entire moisture of the fuel in the form of steam.

It is, therefore, impossible to find out a method which renders possible the determination of the exact composition of the steam-air gas as produced in its actual reaction zone. The method previously described, however, furnishes the possibility of finding out the amount of hydrogen which is derived from the distillation gas? and this method gives quite useful results, so long as the amounts of oxygen and nitrogen which go over from the fuel into the gas are not too large. For fuels which do not fulfil the latter conditions, such as wood or peat, it is, unfortunately, of little satisfaction.

The procedure explained may appear too intricate to the practical man, especially as not without pains results are established which are based on very unsafe assumptions, and are, therefore, uncertain. The foregoing investigations have however, shown that the amount of gas which will be obtained from 1 kilogramme of carbon is actually dependent on the working of the producer, and thereby a convenient means is given of correctly and rapidly explaining the gas analysis. Since the quantity of gas which contains 1 kilogramme C will be calculated from the gas analysis, so one only requires for criticism to add together the percentage by volume of the carbon-containing gases, and if the total found be substantially less than 35*6 per cent., one can with safety conclude therefrom that distillation gas has been burnt, and that clumsy faults have been exhibited.

Formerly, one used to regard a low carbon dioxide content in the gas as evidence of a good producer gas, and in so doing was generally right. In modern producers which are blown from below (with forced draught) and are worked with rich additions of steam to the air for gasification, this criterion is, however, not arrived at; and this one perceives, for example, in gas No. 17 in the Table G., which only contains 2 per cent. CO₂. On the ground of this low CO₂ content, one might, be induced to assume that the producer working had been faultless, and in consequence attribute the low quality of the gas solely to the fuel. But actually such a chain of reasoning would be erroneous. If one sums up the C-containing gases,